

Applicant : Neil H. Bander
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In the claims:

Please amend the claims as follows:

1.-68. (Cancelled)

69. (Currently Amended) A method of treating, preventing, or delaying development or progression of prostate cancer comprising:

providing an antibody or antigen binding portion thereof which binds to an extracellular domain an epitope of prostate specific membrane antigen which is also recognized by a monoclonal antibody selected from the group consisting of an E99, a J415, a J533, and a J591 monoclonal antibody; and

administering the antibody or antigen binding portion thereof to a subject in need of treatment under conditions effective to treat, prevent, or delay the development or progression of prostate cancer.

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70. (Previously Added) The method according to claim 69, wherein the prostate cancer is metastatic.

71. (Previously Added) The method according to claim 70, whercin the metastatic prostate cancer involves a bone marrow or a lymph node metastasis.

72. (Previously Added) A method according to claim 69, whercin the administering is carried out parenterally.

73. (Previously Added) A method according to claim 72, wherein the administering is carried out intravenously.

74. (Previously Added) A method according to claim 69, wherein the administering is carried out by intracavitory instillation.

75. (Previously Added) A method according to claim 69, wherein the administering is

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carried out rectally.

76. (Previously Added) A method according to claim 69, wherein the antibody or antigen binding portion thereof is administered following a prostatectomy.

77. (Previously Amended) A method according to claim 69, wherein the antibody or antigen binding portion binds live cells.

78. (Previously Added) A method according to claim 69, wherein the antibody is selected from the group consisting of a monoclonal antibody and a polyclonal antibody.

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79. (Previously Added) A method according to claim 78, wherein the antibody is selected from the group consisting of an E99, a J415, a J533, and a J591 monoclonal antibody.

80. (Previously Added) A method according to claim 78, wherein the antibody is a monoclonal antibody produced by a hybridoma having an ATCC Accession Number selected from the group consisting of HB-12101, HB-12109, HB-12127, and HB-12126.

81.-82. (Cancelled)

83. (Previously Added) A method according to claim 69, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence selected from the group consisting of SEQ ID NO:8 (variable heavy chain), SEQ ID NO:19 (variable light chain), an amino acid sequence of the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126, and an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

84. (Previously Added) A method according to claim 83, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence of SEQ ID NO:8 (variable heavy chain) or an amino acid sequence of the variable heavy chain

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produced by the hybridoma having ATCC deposit no. HB-12126 and an antigen binding portion of an amino acid sequence of SEQ ID NO:19 (variable light chain) or an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

85. (Previously Added) A method according to claim 83, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence selected from the group consisting of SEQ ID NO:8 (variable heavy chain) and SEQ ID NO:19 (variable light chain).

86. (Previously Added) A method according to claim 83, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence from SEQ ID NO:8 (variable heavy chain) and an antigen binding portion of an amino acid sequence from SEQ ID NO:19 (variable light chain). B1

87. (Previously Added) A method according to claim 83, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence selected from the group consisting of an amino acid sequence of the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126, and an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

88. (Previously Added) A method according to claim 83, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence of the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126 and an antigen binding portion of an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

89. (Previously Added) A method according to claim 69, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence selected from the group consisting of SEQ ID NO:6 (variable heavy chain), SEQ ID NO:17 (variable light chain), a nucleic acid sequence which

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encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126, and a nucleic acid sequence which encodes the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

90. (Currently Amended) A method according to claim 89, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence of SEQ ID NO:6 (variable heavy chain) or a nucleic acid sequence which encodes the variable heavy chain of the hybridoma having ATCC deposit no. HB-12126 and an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence of SEQ ID NO:17 (variable light chain) or a nucleic acid sequence which encodes the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

B | 91. (Previously Added) A method according to claim 89, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence selected from the group consisting of SEQ ID NO:6 (variable heavy chain) and SEQ ID NO:17 (variable light chain).

92. (Previously Added) A method according to claim 89, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence from SEQ ID NO:6 (variable heavy chain) and an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence from SEQ ID NO:17.

93. (Previously Added) A method according to claim 89, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence selected from the group consisting of a nucleic acid sequence which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126, and a nucleic acid sequence which encodes the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

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94. (Previously Added) A method according to claim 89, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126 and an antigen binding portion of an amino acid sequence encoded by a nucleic acid which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126.

Claims 95.-123. (Cancelled)

124. (Currently Amended) A method of treating, preventing, or delaying development or progression of prostate cancer comprising:

B1 providing an antibody or antigen binding portion thereof which binds to an extracellular domain- epitope of prostate specific membrane antigen which is also recognized by a monoclonal antibody selected from the group consisting of an E99, a J415, a J533, and a J591 monoclonal antibody, wherein the antibody is labeled with the radiolabel ⁹⁰Y; and

administering the antibody or antigen binding portion thereof to a subject in need of treatment under conditions effective to treat, prevent, or delay the development or progression of prostate cancer.

125. (Currently Amended) A method of treating, preventing, or delaying development or progression of prostate cancer comprising:

providing an antibody or antigen binding portion thereof which binds to an extracellular domain- epitope of prostate specific membrane antigen which is also recognized by a monoclonal antibody selected from the group consisting of an E99, a J415, a J533, and a J591 monoclonal antibody, wherein the antibody is labeled with a radiolabel, and wherein the radiolabel is a beta- or gamma-emitter; and

administering the antibody or antigen binding portion thercof to a subject in need of treatment under conditions effective to treat, prevent, or delay the development or progression of prostate cancer.

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126. (Currently Amended) A method of treating, preventing, or delaying development or progression of prostate cancer comprising:

providing an antibody or antigen binding portion thereof which binds to an extracellular domain epitope of prostate specific membrane antigen which is also recognized by a monoclonal antibody selected from the group consisting of an E99, a J415, a J533, and a J591 monoclonal antibody, wherin the antibody is bound to a cytotoxic drug of bacterial origin; and

administering the antibody or antigen binding portion thereof to a subject ~~in need of treatment~~ under conditions effective to treat, prevent, or delay the development or progression of prostate cancer.

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127. (Currently Amended) A method of treating, preventing, or delaying development or progression of prostate cancer comprising:

providing an antibody or antigen binding portion thereof which binds to an extracellular domain epitope of prostate specific membrane antigen which is also recognized by a monoclonal antibody selected from the group consisting of an E99, a J415, a J533, and a J591 monoclonal antibody, wherin the antibody is bound to a cytotoxic drug of plant origin; and

administering the antibody or antigen binding portion thereof to a subject ~~in need of treatment~~ under conditions effective to treat, prevent, or delay the development or progression of prostate cancer.

128. (Cancelled)

129. (Currently Amended) A method according to claim 69 128, wherin the antibody or antigen binding portion thereof ~~competes for binding to~~ binds to an epitope of prostate specific membrane antigen with that is also recognized by monoclonal antibody J591.

130. (Currently Amended) A method according to claim 69 128, wherein the antibody or antigen binding portion thereof ~~competes for binding to~~ binds to an epitope of prostate specific membrane antigen with that is also recognized by monoclonal antibody J415.

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131. (Cancelled)

132. (Previously Added) A method according to claim 69, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence selected from the group consisting of an amino acid sequence of the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12109, and an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12109.

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133. (Currently Amended) A method according to claim 69132, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence of the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12109, and an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12109.

134. (Previously Added) A method according to claim 69, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence selected from the group consisting of a nucleic acid sequence which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12109, and a nucleic acid sequence which encodes the variable light chain produced by the hybridoma having ATCC deposit no. HB-12109.

135. (Currently Amended) A method according to claim 69134, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12109 and an antigen binding portion of an amino acid sequence encoded by a nucleic acid which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12109.

136. (Currently Amended) A method according to claim 69, 83, 89, or 126, 127, wherein the antibody is a monoclonal antibody.

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137. (Currently Amended) A method according to claim 69, 83, 89, or 126, 127, or 128, wherein the antibody or antigen binding portion thereof is internalized with the prostate specific membrane antigen.

138. (Currently Amended) A method according to claim 69, 83, 89, or 126, 127, or 128, wherein the antibody or antigen binding portion thereof is selected from the group consisting of a Fab fragment, a F(ab')2 fragment, and a Fv fragment.

139. (Currently Amended) A method according to claim 69, 83, or 89, 127, or 128, wherein the antibody or antigen binding portion thereof further comprises a cytotoxic drug.

140. (Currently Amended) A method according to claim 139, 69, 83, 89, or 128, wherein the cytotoxic drug is selected from the group consisting of a therapeutic drug, a compound emitting radiation, molecules of plant, fungal, or bacterial origin, biological proteins, and mixtures thereof.

141. (Previously Added) A method according to claim 140, wherein the cytotoxic drug is a compound emitting radiation.

142. (Previously Added) A method according to claim 141, wherein the compound emitting radiation is an alpha-emitter.

143. (Previously Added) A method according to claim 142, wherein the alpha-emitter is selected from the group consisting of ²¹²Bi, ²¹³Bi, and ²¹¹At.

144. (Previously Added) A method according to claim 141, wherein the compound emitting radiation is a beta-emitter.

145. (Previously Added) A method according to claim 144, wherein the beta-emitter is

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¹⁸⁶Re.

146. (Previously Added) A method according to claim 144, wherein the beta-emitter is
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147. (Previously Added) A method according to claim 141, wherein the compound emitting radiation is a gamma-emitter.

148. (Previously Added) A method according to claim 147, wherein the gamma-emitter is ¹³¹I.

⁵¹ 149. (Previously Added) A method according to claim 141, wherein the compound emitting radiation is a beta- and gamma-emitter.

150. (Previously Added) A method according to claim 140, wherein the cytotoxic drug is a molecule of bacterial origin.

151. (Previously Added) A method according to claim 140, wherein the cytotoxic drug is a molecule of plant origin.

152. (Previously Added) A method according to claim 140, wherein the cytotoxic drug is a biological protein.

153. (Currently Amended) A method according to claim 69, 83, or 89, or 128, wherein the antibody or antigen binding portion thereof further comprises a label.

154. (Previously Added) A method according to claim 153, wherein the label is selected from the group consisting of a biologically-active enzyme label, and a radiolabel.

155. (Previously Added) A method according to claim 154, wherein the label is a

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radiolabel selected from the group consisting of ^{111}In , ^{99}mTc , ^{32}P , ^{125}I , ^{131}I , ^{14}C , ^3H and ^{188}Rh .

156. (Currently Amended) A method according to claim 69, 83, 89, or 126 ~~127 or 128~~, wherein the antibody or antigen binding portion thereof is effective to initiate an endogenous host immune function.

157. (Currently Amended) A method according to claim 156, wherein the endogenous host immune function is complement-mediated cellular cytotoxicity cytotoxicity.

158. (Currently Amended) A method according to claim 156, wherein the endogenous host immune function is antibody-dependent cellular cytotoxicity cytotoxicity.

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159. (Currently Amended) A method according to claim 69, 83, 89, or 126 ~~127 or 128~~, wherein the antibody or antigen binding portion thereof is in a composition further comprising a pharmaceutically acceptable carrier, excipient, or stabilizer.

160. (Currently Amended) The method according to claim 69, 83, 89, or 126 ~~127 or 128~~, wherein the antibody or antigen binding portion thereof is administered in conjunction with a second therapeutic modality.

161. (Previously Added) The method according to claim 160, wherein the second therapeutic modality is selected from the group consisting of surgery, radiation, chemotherapy, immunotherapy and hormone replacement.

162. (Previously Added) The method according to claim 161, wherein the hormone replacement comprises treatment with estrogen or an anti-androgen agent.

163. (Previously Added) The method according to claim 162, wherein the anti-androgen agent is an agent which blocks or inhibits the effects of testosterone.

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(Please add the following new claims:)

164. (New) The method according to claim 126, wherein the prostate cancer is metastatic.

165. (New) The method according to claim 164, wherein the metastatic prostate cancer involves a bone marrow or a lymph node metastasis.

166. (New) A method according to claim 126, wherein the administering is carried out parenterally.

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167. (New) A method according to claim 166, wherein the administering is carried out intravenously.

168. (New) A method according to claim 126, wherein the administering is carried out by intracavitory instillation.

169. (New) A method according to claim 126, wherein the administering is carried out rectally.

170. (New) A method according to claim 126, wherein the antibody or antigen binding portion thereof is administered following a prostatectomy.

171. (New) A method according to claim 126, wherein the antibody or antigen binding portion binds live cells.

172. (New) A method according to claim 126, wherein the antibody is selected from the group consisting of an E99, a J415, a J533, and a J591 monoclonal antibody.

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173. (Previously Added) A method according to claim 126, wherein the antibody is a

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monoclonal antibody produced by a hybridoma having an ATCC Accession Number selected from the group consisting of HB-12101, HB-12109, HB-12127, and HB-12126.

174. (New) A method according to claim 126, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence selected from the group consisting of SEQ ID NO:8 (variable heavy chain), SEQ ID NO:19 (variable light chain), an amino acid sequence of the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126, and an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

175. (New) A method according to claim 174, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence of SEQ ID NO:8 (variable heavy chain) or an amino acid sequence of the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126 and an antigen binding portion of an amino acid sequence of SEQ ID NO:19 (variable light chain) or an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

176. (New) A method according to claim 174, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence selected from the group consisting of SEQ ID NO:8 (variable heavy chain) and SEQ ID NO:19 (variable light chain).

177. (New) A method according to claim 174, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence from SEQ ID NO:8 (variable heavy chain) and an antigen binding portion of an amino acid sequence from SEQ ID NO:19 (variable light chain).

178. (New) A method according to claim 174, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence selected from the group consisting of an amino acid sequence of the variable heavy chain produced by the

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hybridoma having ATCC deposit no. HB-12126, and an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

179. (New) A method according to claim 174, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence of the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126 and an antigen binding portion of an amino acid sequence of the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

180. (New) A method according to claim 126, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence selected from the group consisting of SEQ ID NO:6 (variable heavy chain), SEQ ID NO:17 (variable light chain), a nucleic acid sequence which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126, and a nucleic acid sequence which encodes the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

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181. (New) A method according to claim 180, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence of SEQ ID NO:6 (variable heavy chain) or a nucleic acid sequence which encodes the variable heavy chain of the hybridoma having ATCC deposit no. HB-12126 and an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence of SEQ ID NO:17 (variable light chain) or a nucleic acid sequence which encodes the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

182. (New) A method according to claim 180, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence selected from the group consisting of SEQ ID NO:6 (variable heavy chain) and SEQ ID NO:17 (variable light chain).

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183. (New) A method according to claim 180, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence from SEQ ID NO:6 (variable heavy chain) and an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence from SEQ ID NO:17.

184. (New) A method according to claim 180, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid sequence selected from the group consisting of a nucleic acid sequence which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126, and a nucleic acid sequence which encodes the variable light chain produced by the hybridoma having ATCC deposit no. HB-12126.

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185. (New) A method according to claim 180, wherein the antibody or antigen binding portion thereof comprises an antigen binding portion of an amino acid sequence encoded by a nucleic acid which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126 and an antigen binding portion of an amino acid sequence encoded by a nucleic acid which encodes the variable heavy chain produced by the hybridoma having ATCC deposit no. HB-12126.

186. (New) A method according to claim 126, wherein the antibody or antigen binding portion thereof binds to an epitope of prostate specific membrane antigen that is also recognized by monoclonal antibody J591

187. (New) A method according to claim 69, 124, 125, 126, or 127, wherein the method is a method of treating development or progression of prostate cancer.

188. (New) A method according to claim 69, 124, 125, 126, or 127, wherein the method is a method of preventing development or progression of prostate cancer.

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189. (New) A method according to claim 69, 124, 125, 126, or 127, wherein the method is a method of delaying development or progression of prostate cancer.
